Operators Manual

Installation, Operation & Service

Direct Steam Table Top Kettles

Table-Top Direct Steam Kettles

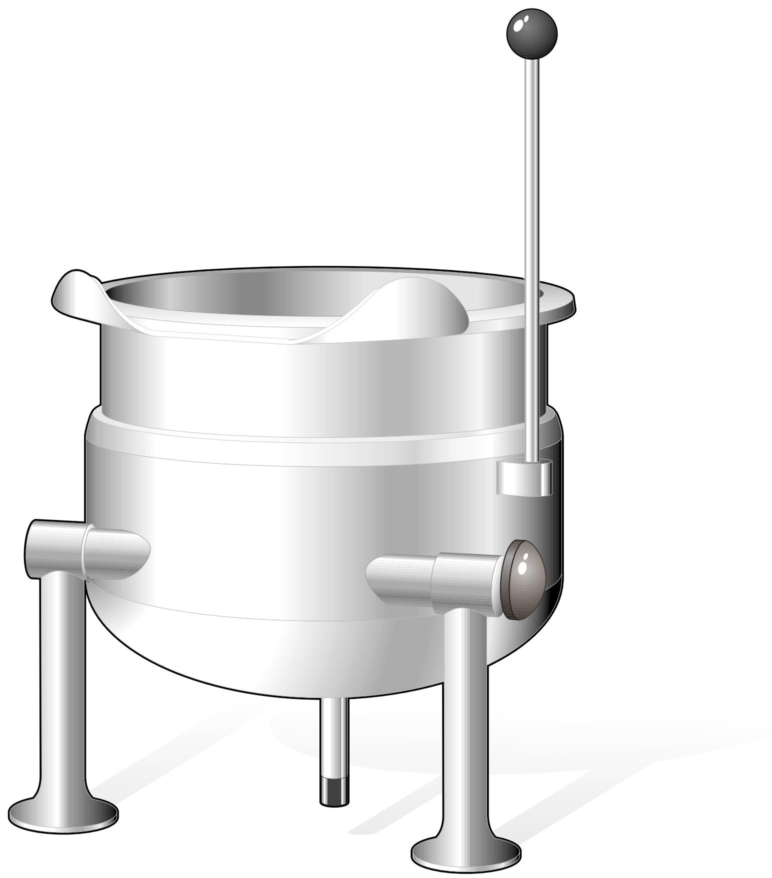
MODELS: KDT- 1-T
KDT- 3-T
KDT- 6-T
KDT-12-T
KDT-20-T

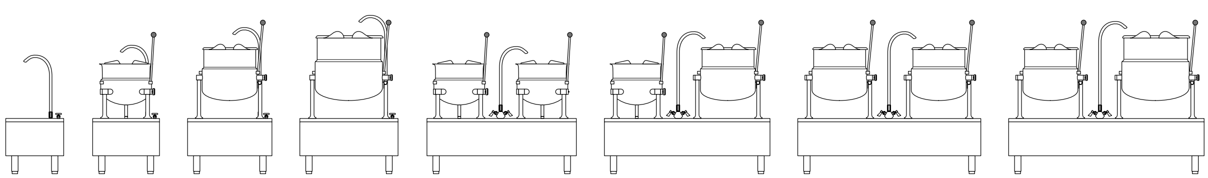
SD Stands

MODELS: SD- 450
SD- 650
SD- 760
SD-1050
SD-1200
SD-1600
SD-1800

Kettles on SD Stands

MODELS: SD-450- K 6
SD-650- K12
SD-760- K12
SD-760- K20
SD-1050-K 6 6
SD-1200-K 612
SD-1600-K 620
SD-1600-K1212
SD-1600-K1220
SD-1600-K2020





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SE95008 Rev. 3

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INSTALLATION

GENERAL

Installation of the unit must be accomplished by qualified installation personnel working to all applicable local and national codes. Improper installation of product could cause injury or damage.

This unit is built to comply with applicable standards for manufacturers. Included among those approval agencies are: UL, NSF, ASME/Ntl.Bd., CSA, ETL, CE, and others. Many local codes exist, and it is the responsibility of the owner/installer to comply with these codes.

INSPECTION

Before uncrating, visually inspect the unit for evidence of damage during shipping. If damage is noticed, do not unpack the unit, follow shipping damage instructions.

SHIPPING DAMAGE INSTRUCTIONS

If shipping damage to the unit is discovered or suspected, observe the following guidelines in preparing a shipping damage claim.

1. Write down a description of the damage or the reason for suspecting damage as soon as it is discovered. This will help in filling out the claim forms later. If possible, take a polaroid picture.
2. As soon as damage is discovered or suspected, notify the carrier that delivered the shipment.
3. Arrange for the carrier's representative to examine the damage.
4. Fill out all carrier claims forms and have the examining carrier sign and date each form.

CLEARANCE REQUIREMENTS

The first installation step is to refer to the SPECIFICATION DRAWINGS at the back of this manual in order to determine the exact location of the kettle.

CLEARANCE REQUIREMENTS TO COMBUSTIBLE AND NONCOMBUSTIBLE SURFACES:

	RIGHT	LEFT	BACK
KDT-1-T	4"	0"	0"
KDT-3-T & KDT-6-T	4"	4"	1"
KDT-12-T & KDT-20-T	4"	4"	1.75"

Note: For SD Stands (with or without kettles) zero clearance is required on the sides and back.

KETTLES

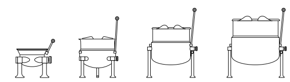
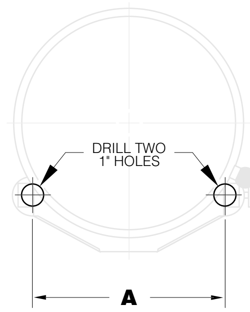


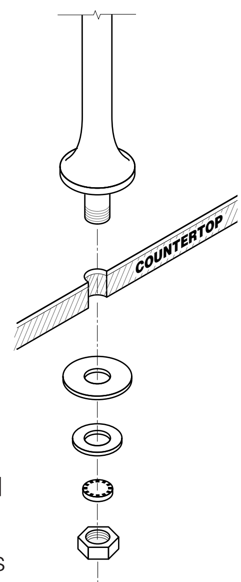
Table-top models must be positioned on a firm stand or existing counter top and secured in place. An optional modular cabinet base (SD Stand), with level-adjustable legs is available .

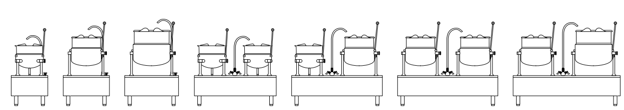


1. Make two 1" holes for the kettle legs.

	A
KDT-1-T	8 1/8"
KDT-3-T	10"
KDT-6-T	12"
KDT-12-T	19 1/2"
KDT-20-T	23 3/4"

2. Remove the leg mounting locknuts and washers from the kettle's legs.
3. Install the legs into the two 1" holes.
4. Position washers as illustrated and secure the kettle to its' base by refastening the locknut from underneath the cabinet or countertop.
5. Once the kettle is secure, screw the tilt handle into the mounting block welded to the side of the kettle.
6. Install service requirements as required.





KETTLES c/w SD STAND

1. Place unit in desired location.
2. Place a carpenter's level on the kettle rim and level the stand using the level adjustable feet.
3. Install service requirements as required.

STEAM

All steam plumbing to and from the kettle and steam boiler should be thoroughly cleaned and inspected for dirt and debris before final connection to the kettle are made.

Generally, kettles require 1/2" i.p.s. pipe, 10-45 psi steam pressure. If the steam supply pressure exceeds 45 psi, a pressure reducing valve is required. The steam inlet is at the right side of the kettle, as seen from the front.

CONDENSATE (Kettles without SD Stands)

Maximum pressure rating on table-top kettles is 50psi. It is highly recommended that a pressure relief valve equal to or less than this pressure be installed on the incoming steam line close to the kettle.

A steam condensate trap must be plumbed to a drain, using minimum 1/2" NPT plumbing. The condensate line is limited to a maximum rise of 10 feet in order for the steam pressure to adequately force the condensate through the plumbing. Any higher rise requires a pump.

If the steam boiler to which this kettle is installed has a condensate return (closed loop system), a 1/2" steam strainer, a 1/2" steam trap, and a 1/2" check valve must be installed on the output (condensate) side of the kettle.

CONDENSATE (Kettles c/w SD Stands)

The stand comes factory plumbed so the condensate is connected to the stands drain manifold.

POTABLE WATER

The water faucet (optional on kettles purchased without SD stands) with swing spout, requires 1/2 inch O.D. copper tube plumbing for hot or cold water supplies to the faucet (SPK - cold water connection only, DPK - hot and cold water connection).

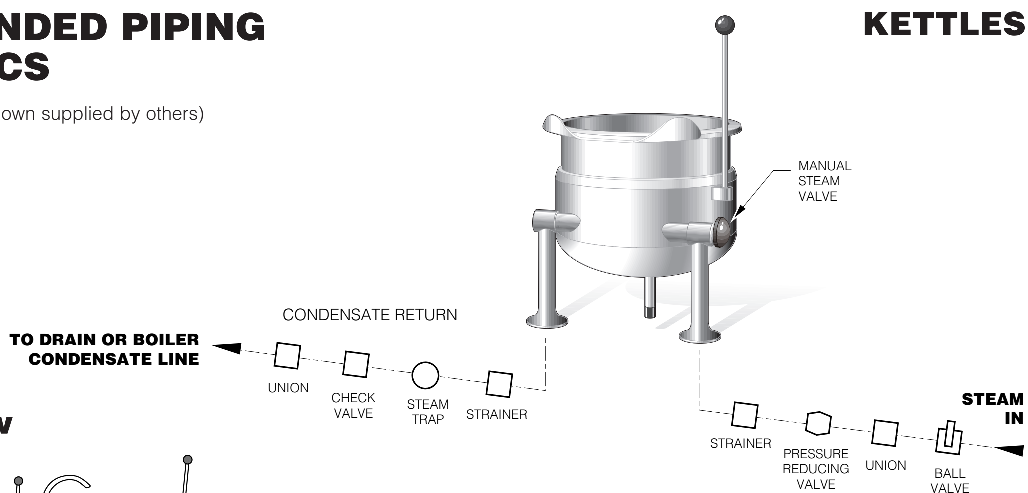
FINAL INSTALLATION CHECK

1. Partially fill the kettle with water.
2. Slowly turn the steam supply valve's knob to the open position.
3. Release the safety valve, ensuring that the steam escapes freely. Stay clear of steam exhaust when releasing the safety valve.
4. Observe that the water in the kettle comes to a boil.
5. Close the steam supply valve.
6. Drain off the water by tilting the kettle.

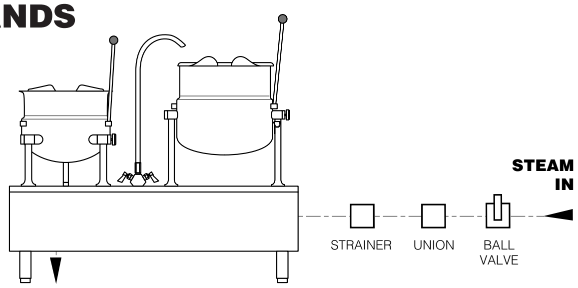
RECOMMENDED PIPING SCHEMATICS

(all service connections shown supplied by others)

KETTLES



KETTLES c/w SD STANDS

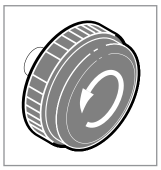


OPERATING INSTRUCTIONS

CLEVELAND STEAM COOKING EQUIPMENT IS INTENDED FOR COMMERCIAL USE ONLY BY PROFESSIONALLY TRAINED PERSONNEL.

OPERATION

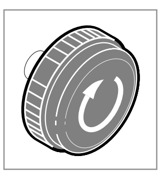
1. Ensure that there is an adequate steam supply to the kettle.



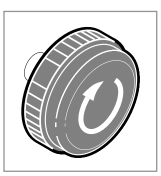
2. Turn the steam control valve to the open position by turning the knob counter-clockwise, then allow the kettle to preheat.

NOTE: When cooking egg and milk products, the kettle should NOT be preheated, as products of this nature adhere to hot cooking surfaces. These types of foods should be placed in the kettle before heating is begun.

3. Fill kettle with product to desired level.



4. When the product has reached the desired temperature, regulate the heat, as required, by turning the steam control valve clockwise for less steam, and therefore, a lower temperature.



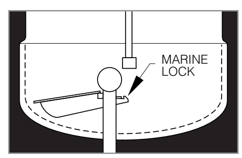
5. When cooking is complete, close the steam control valve by turning the knob clockwise.

FOR KETTLE/STEAMER COMBINATIONS:

If the boiler in a steamer is supplying steam to a kettle, always heat the kettle first. After the kettle contents are heated, and the boiler's steam pressure returns to normal, the steamer may be used. Pressure steamer compartments should be sequentially started, and preheated before cooking.

NOTE: As with cleaning food soil from any cookware, art important part of kettle cleaning is to prevent food from drying on. For this reason, cleaning should be completed immediately after cooked foods are removed. . Please read the "Care and Cleaning" instructions for detailed kettle washing procedures

Marine Lock (12 & 20 gal. models only)



If your unit is equipped with a marine lock to prevent accidental tilting, it must be inspected daily to insure it moves freely and automatically locks into place when kettle is returned to upright position.

Use the following procedure to tilt the kettle.

1. Securely grasp the tilt handle.

2. Push the marine lock button down to unlock tilting mechanism.

3. Pull the handle to tilt the kettle.

4. When you return the kettle to its' original upright position the marine lock will latch automatically.

CLEANING INSTRUCTIONS

CARE AND CLEANING

Your kettle must be cleaned regularly to maintain its fast, efficient cooking performance, and to ensure its continued safe, reliable operation.

WARNING: Do not use chloride base detergents.

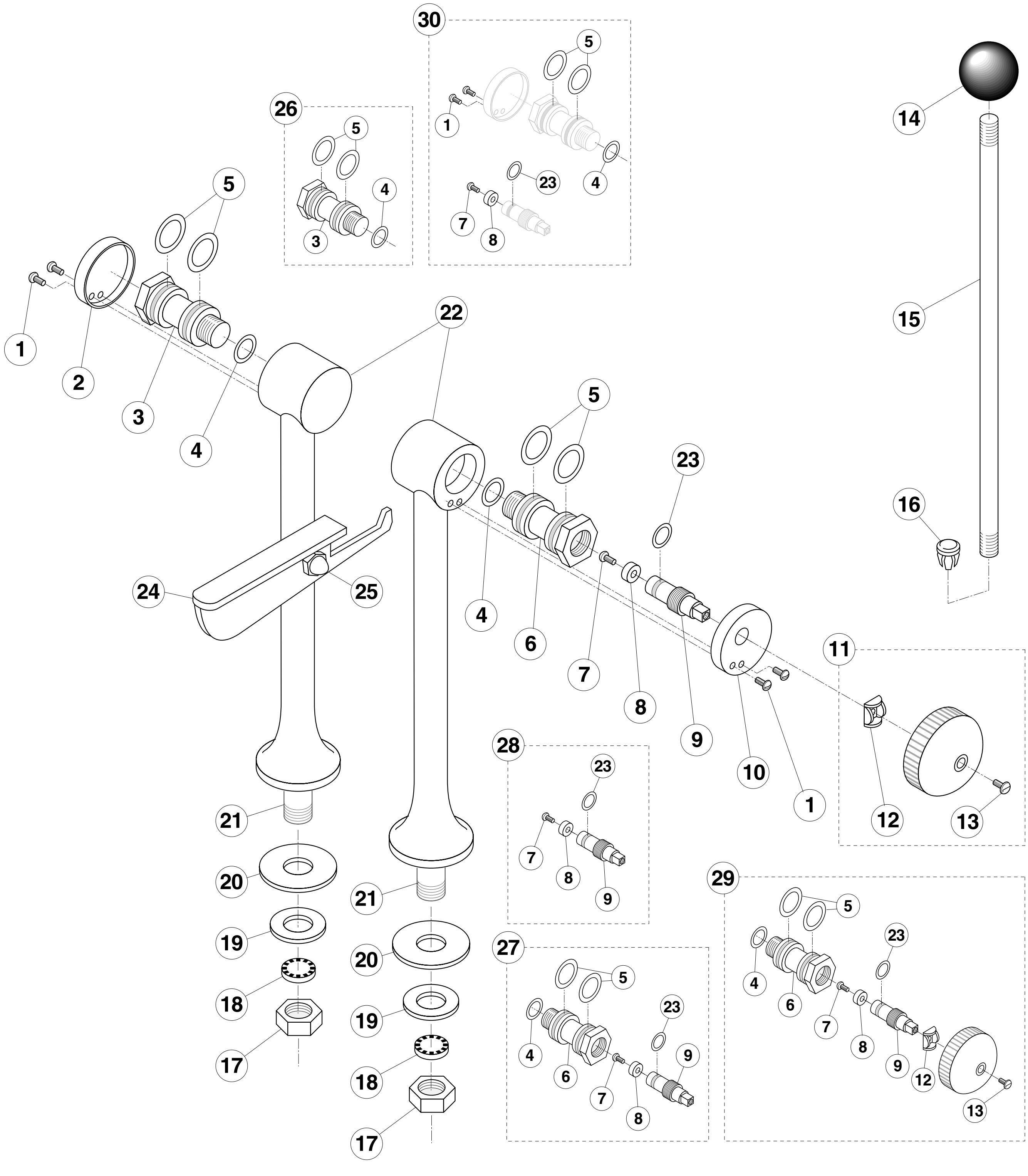
1. Prepare a warm water and mild detergent solution in the kettle.
2. Remove food soil inside the kettle using a nylon brush. Do not use a metal bristle brush, as this may permanently damage the kettle's stainless steel surface.
3. Loosen food which is stuck to the kettle by allowing it to soak at a low temperature setting.
4. Tilt kettle forward to drain wash water.
5. Rinse kettle interior thoroughly, then drain the rinse water.
6. Using mild soapy water and a damp sponge, wash the exterior of the kettle, rinse, and dry.
7. Leave the cover off when the kettle is not in use..
8. If your unit is equipped with a marine lock, clean any food deposits that may have spilled onto the mechanism.

NOTE: For more difficult cleaning applications one of the following can be used: alcohol, baking soda, vinegar, or a solution of ammonia in water. Avoid the use of chloride cleansers, which may damage the kettle's or stands stainless steel surface.

WARNING: Steel wool should never be used for cleaning the cooking chamber of the kettle. Particles of steel wool become embedded in the cooking surface and rust, which may corrode the stainless steel.

SERVICE PARTS

STEAM CONTROL ASSEMBLY

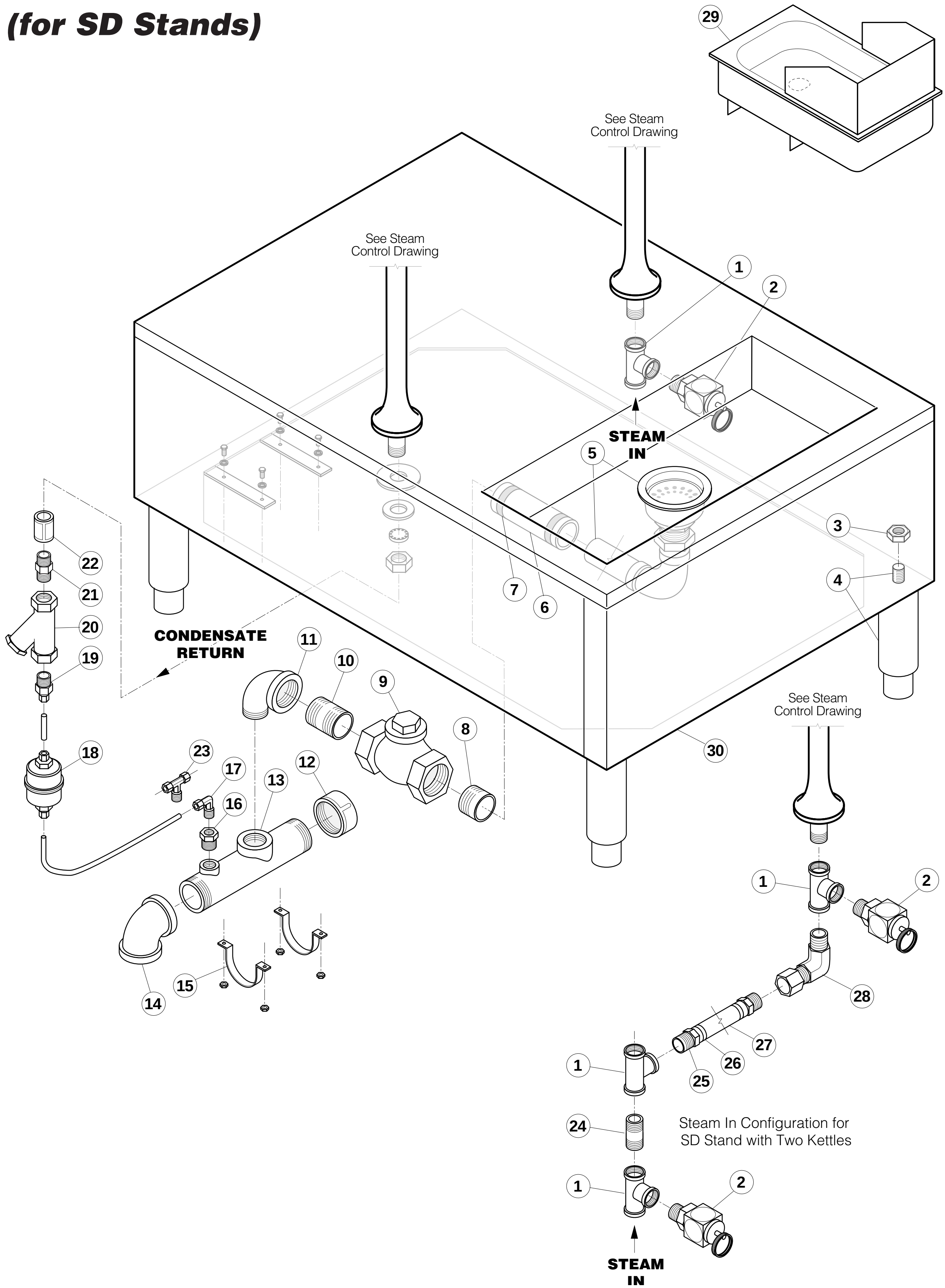


STEAM CONTROL ASSEMBLY

ITEM NO.	PART NO.	DESCRIPTION	QTY.
1.	FA11056	Binding Head Screw, 6-32 x 1/2" lg.	4
2.	KE50458	End Cap, condensate return	1
3.	KE50455-1	Trunnion, condensate return	1
4.	FA05002-35	"O" Ring	2
5.	FA05002-37	"O" Ring	4
6.	KE50460-1	Trunnion, steam inlet	1
7.	FA11089	Binding Head Screw, 8-32 x 1/4" lg.	1
8.	KE51713	Washer, steam valve	1
9.	KE50459	Operating Stem	1
10.	KE50457	End Cap, steam inlet	1
11.	SE00028	Steam Control Knob Assembly (c/w Item No. 12, 13 & Knob)	1
12.	KE51888	Retaining Washer	1
13.	FA11092	Binding Head Screw, 8-32 x 1/2" lg.	1
14.	KE50151-E	Knob, threaded (after 07/94)	1
	KE50151	Knob, non threaded (prior to 06/94)	1
15.	KE50886-1	Handle, KDT-1-T	1
	KE50886-2	Handle, KDT-3-T	1
	KE50886-3	Handle, KDT-6-T & KDT-12-T	1
	KE50886-4	Handle, KDT-20-T	1
16.	KE50475	Plug Button	1
17.	KE52697	Lock Nut, 1/2" NPS	2
18.	FA32500	Lockwasher	2
19.	FA30502	Washer, satin coat	2
20.	KE50467	Washer, Foot	2
21.	KE50465	Service Pipe, KDT-1-T & KDT-3-T	2
	KE50462	Service Pipe, KDT-6-T.	2
	KE50463	Service Pipe, KDT-12-T	2
	KE50464	Service Pipe, KDT-20-T	2
22.	KE00203	Leg Assembly	2
23.	FA05002-12	"O" Ring	1
24.	KE01115	Marine Lock Latch, KDT-12-T & KDT20-T only	1
25.	KE52632	Crown Nut, KDT-12-T & KDT20-T only	1
26.	SE00096	Steam Outlet Assembly	1
27.	SE00011	Trunnion Assembly, steam inlet	1
28.	SE00029	Operating Stem Assembly, steam inlet	1
29.	SE00030	Steam Inlet Control Assembly	1
30.	SE00112	"O" Ring Replacement Kit	1

Requires Knob - Item No. KE50151-E

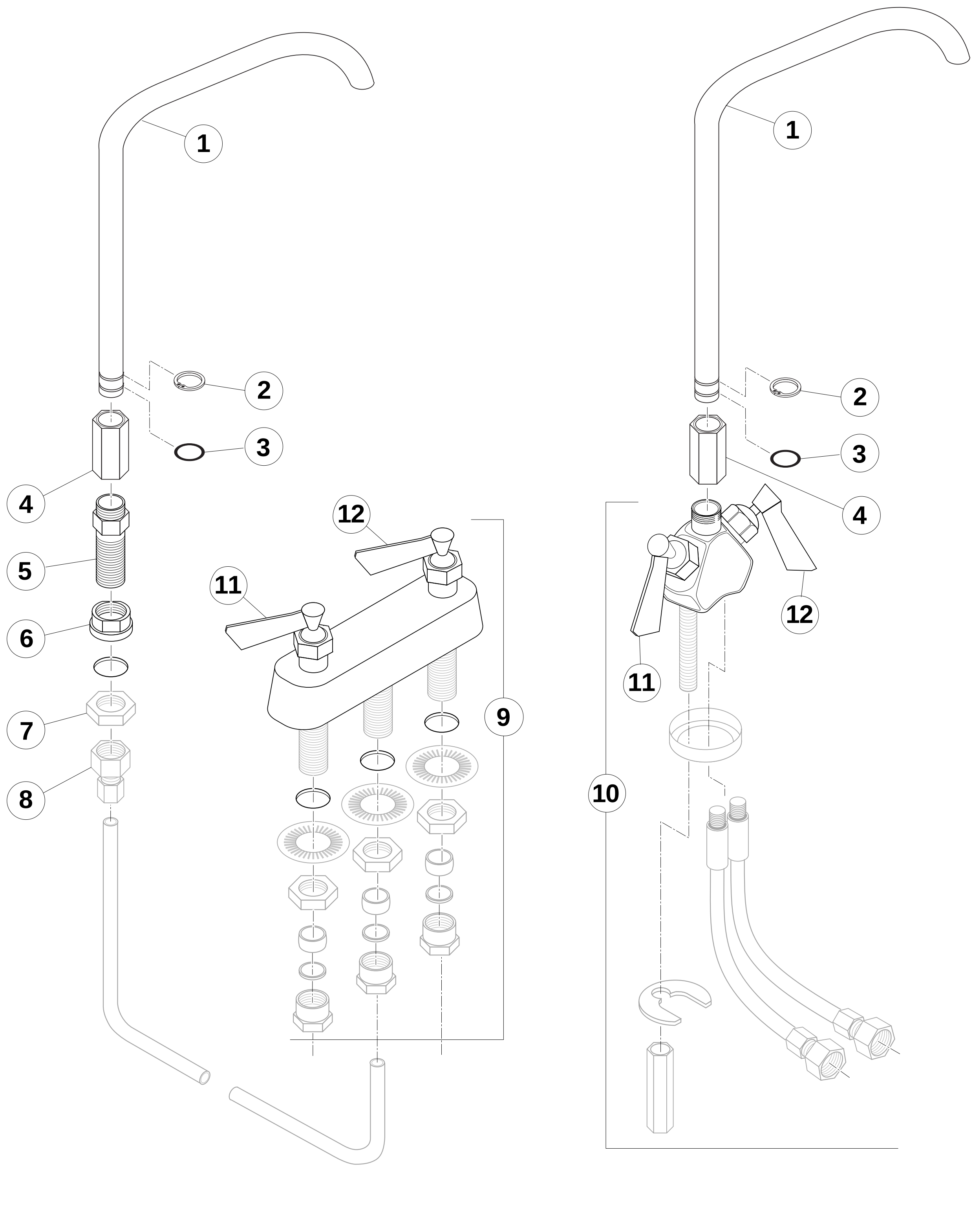
PLUMBING ASSEMBLY (for SD Stands)



PLUMBING ASSEMBLY (for SD Stands)

ITEM NO.	PART NO.	DESCRIPTION		QTY.
1.	FI00169	Tee, 1/2" NPT.	(single kettle units)	1
			(twin kettle units)	3
2.	KE51723	Pressure Relief Valve, 1/2" NPT	(single kettle units)	1
			(twin kettle units)	2
3.	FA95010	Jam Nut, #3/4-10		4
4.	KE51340	Leg		4
5.	SD50000	Strainer Assembly		1
6.	SD50042	Radiator Hose, 4" lg.		1
7.	FI05131	Hose Clamp		2
8.	SD50043	Nipple, threaded one end only		1
9.	KE51367	Check Valve, 1 1/4" NPT		1
10.	FI00670	Nipple		1
11.	FI00136	90° Street Elbow, 1 1/4" NPT		1
12.	FI00191	Cap, 1 1/2" NPT		1
13.	KE00648	Drain Pipe Assembly		1
14.	FI00044	90° Elbow, 1 1/2" NPT		1
15.	FI05027	Pipe Strap		2
16.	FI05047	Reducer		1
17.	FI05077	Compression Elbow	(single kettle units)	1
18.	SD50027	Steam Trap		1
19.	FI05049	Male Connector		1
20.	KE51249	Strainer, 1/2" NPT		1
21.	FI00596	Nipple, 1/2" NPT		1
22.	FI00266	Coupling, 1/2" NPT		1
23.	FI05048	Compression Tee	(twin kettle units)	1
24.	FI00586	Nipple		1
25.	FI05029	Hose Fitting, 1/2"		2
26.	KE51391	Hose Clamp		2
27.	SD50034	Hose, 20"	(SD1050K66)	1
	SD50035	Hose, 17"	(SD1200K612)	1
	SD50036	Hose, 27"	(SD1600K620, 1212, 12,20 & 2020)	1
28.	FI05028	90° Swivel Elbow		1
29.	SDP	Sliding Drain Pan Assembly		1
30.		***Front Access Panels***		
	SD50067	(SD450 series)		1
	SD50068	(SD650 series)		1
	SD50106	(SD760 series)		1
	SD50069	(SD1050 series)		1
	SD50070	(SD1200 series)		1
	SD50071	(SD1600 series)		1

FAUCET ASSEMBLIES



FAUCET ASSEMBLIES

ITEM NO.	PART NO.	DESCRIPTION	QTY.
1.	KE50825-8	6 gallon	1
	KE50825-1	12 gallon	1
	KE50825-1	20 gallon	1
2.	FA95022	Retaining Ring	1
3.	FA05002-19	"O" Ring	1
4.	KE51736	Long Faucet Nut	1
5.	SD50097	Flanged Nut, 3/4" NPT, Chrome Plated	1
6.	KE51585	Faucet Spout Fitting	1
7.	SD50098	Locknut, 3/4" NPT	1
8.	FI00266	Coupling, 1/2" NPT	1
9.	KE51899	Double Pantry Control Valve (c/w Item No. 11&12)	1
10.	KE51403	Double Pantry Control Valve (c/w Item No. 11&12)	1
	KE51401	Single Pantry Control Valve (c/w Item No. 12)	1
11.	SE50020	Hot Water Stem Assembly	1
12.	SE50021	Cold Water Stem Assembly	1

MAINTENANCE

ALL SERVICE MUST BE PERFORMED BY A QUALIFIED SERVICE TECHNICIAN.

This kettle requires very little preventative maintenance other than daily cleaning. The pressure relief valve must be tested twice a year.

PRESSURE RELIEF VALVE TESTING PROCEDURE

WARNING
Kettle will be hot. Use gloves for protection.

The pressure relief valve (optional on kettles) must be checked at least twice a year as part of the normal maintenance performed.

1. Open steam valve and preheat kettle.

2. Stand to the side of the pressure relief valve discharge tube and pull ring three or four times to insure free movement. Hold valve open for two seconds each time, insuring there is rapid steam escape each time.

3. If valve appears to be sticking replace pressure relief valve. If foreign material is discharged, replace pressure relief valve and eliminate the source of contamination.

STEAM TRAP

To remove line condensate that forms inside the steam jacket, each kettle should be equipped with a steam trap in the line of the kettle outlet to the drain. A good steam trap at startup releases air and wet steam into the drain line for a few minutes, then holds the steam jacket. During cooking, the trap periodically releases accumulated condensate. If the kettle's cooking performance becomes inadequate after long use, replacement of the steam trap with a new one may restore kettle operation to peak efficiency.

MARINE LOCK

Inspect lock at least twice yearly.

1. Check for excessive play or wear on pivot. Adjust or replace as required.

2. Insure lock is catching over the centre of the stop pin and not bent to one side or the other. Adjust or replace as required.

WARRANTY

Our Company supports a worldwide network of Maintenance and Repair Centers. Contact your nearest Maintenance and Repair Centre for replacement parts, service, or information regarding the proper maintenance and repair of your cooking equipment

In order to preserve the various agency safety certification (UL, NSF, ASME/Ntl. Bd., etc.), only factory-supplied replacement parts should be used. The use of other than factory supplied replacement parts will void warranty.

TROUBLESHOOTING GUIDE

This section contains information intended for use by Authorized Service Personnel only.

PROBLEM

A/ Kettle heats too slowly or does not come to a boil.

Probable Cause	Remedy
1. Inadequate steam flow.	Check for correct steam using chart below. If kettle is connected to a steamer and powered by a generator the units should be operated sequentially (kettle boiling first, then start steamer).
2. Steam trap not operating properly.	The trap should open periodically to dump condensate, then close. If it does not open or close it should be cleaned or replaced.
3. Food batches are not always the same.	When checking make certain that the original state (ie. fresh or frozen) and quantity of food product is the same.

PROBLEM

B/ The trunnion housing leaks steam.

Probable Cause	Remedy
1. Trunnion "O" rings are worn.	Replace "O" rings (see STEAM CONTROL ASSEMBLY drawing).

STEAM FLOW RATING OF STEAM GENERATORS

Gas Input BTU/Hour	Steam Output Lbs./Hour	Boiler H.P.
100,000	60	1.7
160,000	95	2.8
200,000	125	3.6
250,000	150	4.4
300,000	180	5.2
Electric KW Input		
18	60	1.7
24	70	2.0
27	90	2.6
36	120	3.5
48	150	4.4

STEAM FLOW RATING REQUIREMENTS FOR KETTLES

Capacity Gal./Lit.	Fast Cooking	Medium Cooking	Stock Kettle
5/17	11	9	6
10/42	22	18	11
25/95	55	44	28
40/151	88	70	44
60/227	132	105	66

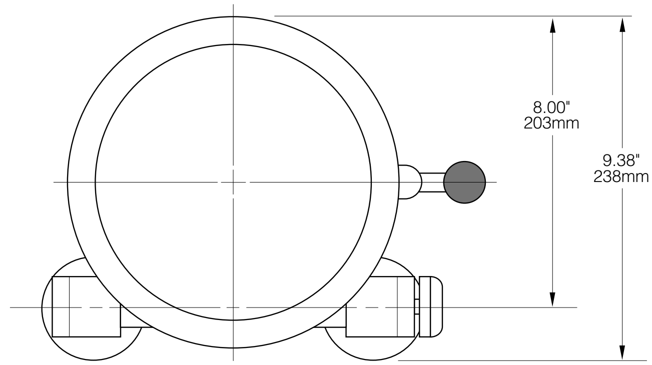
Electric: Above shows lbs. per hour with 10-15 psig steam at the kettle. The use of higher steam pressures (20-25 psig) will reduce heat-up time 5-20%.

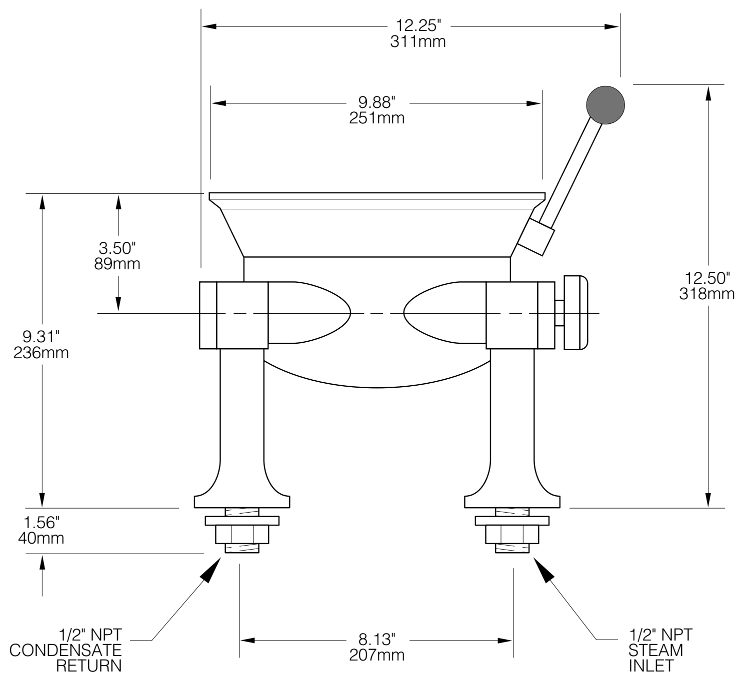
SPECIFICATION DRAWINGS

KDT-1-T

CLEARANCE REQUIREMENTS TO COMBUSTIBLE AND NONCOMBUSTIBLE SURFACES:

Right - 4" Left - 0 Back - 0

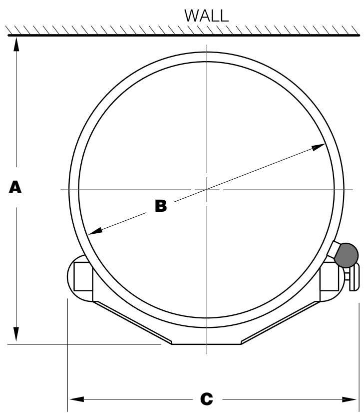


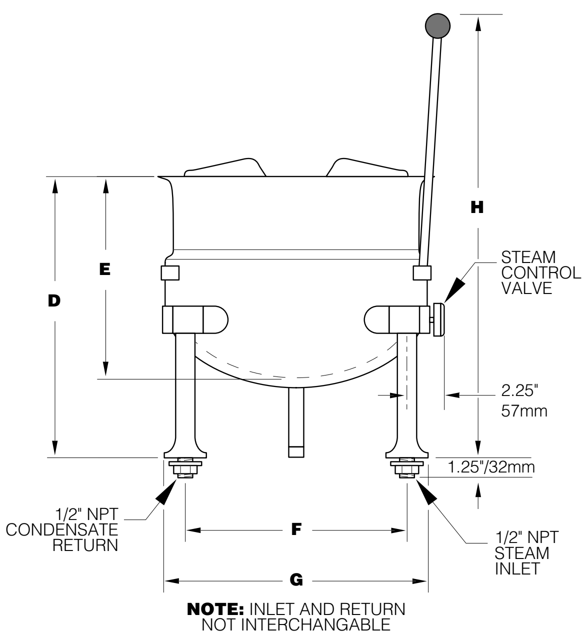


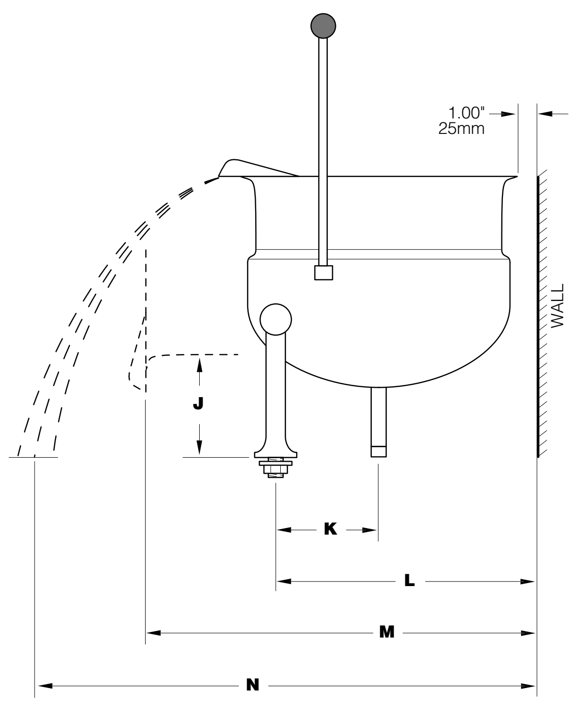
KDT-3-T & KDT-6-T

CLEARANCE REQUIREMENTS TO COMBUSTIBLE AND NONCOMBUSTIBLE SURFACES:

Right - 4"   Left - 4"   Back - 1"





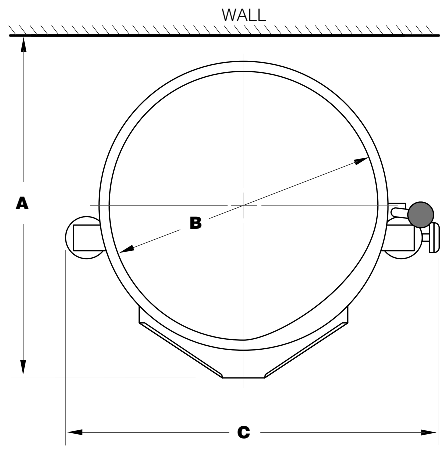


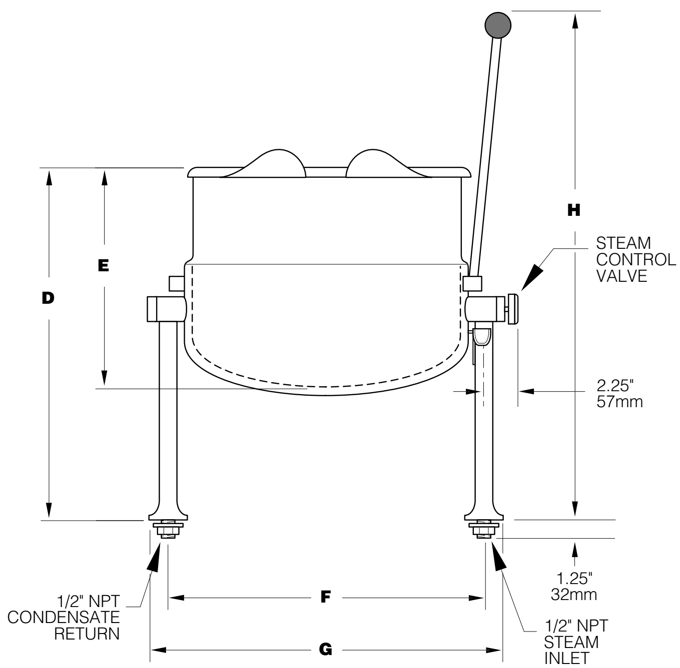
GAL.	LITRE		A	B	C	D	E	F	G	H	J	K	L	M	N
3	11	IN mm	14.00 356	10.00 254	15.13 384	12.50 317	8.25 210	10.00 254	12.50 317	23.00 584	7.00 178	4.00 102	11.00 279	15.00 381	21.00 533
6	23	IN mm	17.50 445	13.38 400	15.13 384	15.31 389	11.00 279	12.00 305	14.50 368	24.50 622	6.75 171	6.00 152	14.50 368	21.19 538	27.50 699

KDT-12-T & KDT-20-T

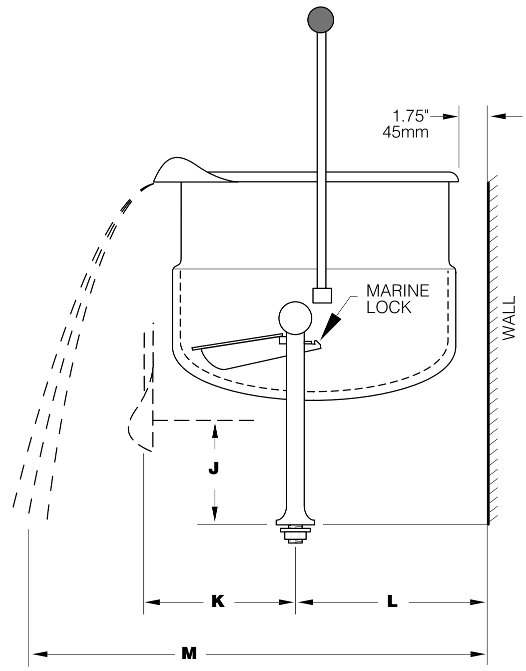
CLEARANCE REQUIREMENTS TO COMBUSTIBLE AND NONCOMBUSTIBLE SURFACES:

Right - 4"   Left - 4"   Back - 1.75"





NOTE: INLET AND RETURN NOT INTERCHANGABLE



GAL.	LITRE		A	B	C	D	E	F	G	H	J	K	L	M
3	11	IN	20.50	16.75	23.00	22.25	13.50	19.50	22.00	29.00	6.00	8.75	11.50	29.50
		mm	521	425	584	565	343	495	559	737	152	222	292	749
6	23	IN	25.25	21.00	27.25	18.00	11.00	23.75	26.25	33.00	6.50	10.50	13.25	36.75
		mm	641	533	692	457	279	603	667	838	165	267	337	960

SD STANDS WITH KETTLES

CLEARANCE REQUIREMENTS TO COMBUSTIBLE AND NONCOMBUSTIBLE SURFACES:

Right - 0 Left - 0 Back - 0

MODEL	A	B	C
SD-450- K 6	17.70 450	4.00 102	10.00 254
SD-650- K12	25.56 650	4.00 102	13.75 349
SD-760- K12	29.94 760	5.22 133	15.00 381
SD-760- K20	29.94 760	3.10 79	15.00 381
SD-1050-K20	41.32 1050	6.50 165	34.75 883
SD-1050-K 6 6	41.32 1050	4.91 125	20.66 525
SD-1200-K 6 12	47.19 1200	4.10 104	19.84 504
SD-1600-K 6 20	63 1600	9.88 251	25.63 651
SD-1600-K12 12	63 1600	8.25 210	31.50 800
SD-1600-K12 20	63 1600	6.13 156	29.38 746
SD-1600-K20 20	63 1600	4.00 102	31.50 800

